

1. (Amended) An isolated enzyme exhibiting endo- β -1,4-glucanase activity (EC 3.2.1.4) [which is] selected from [one of] the group consisting of:

- (a) a polypeptide encoded by the DNA sequence of positions 76 to 1455 of SEQ ID NO:1;
- (b) a polypeptide produced by culturing a cell comprising the sequence of SEQ ID NO:1 under conditions wherein the DNA sequence is expressed;
- (c) an endo- β -1,4-glucanase enzyme having a sequence of at least 75% identity to positions 26-485 of SEQ ID NO:2 [polypeptide comprising an amino acid sequence derived from the amino acid sequence of positions 26-485 of SEQ ID NO:2] when identity is determined by GAP provided in the GCG program package using a GAP creation penalty of 3.0 and GAP extension penalty of 0.1; and
- (d) a polypeptide encoded by the endoglucanase encoding part of the DNA sequence obtainable from the ~~plasmid~~ in *Escherichia coli* DSM 12805.

2. (Amended) The enzyme according to claim 1, [which] wherein said enzyme belongs to family 9 of glycosyl hydrolases.

3. (Amended) The enzyme according to claim 1 [or 2], [which comprises a polypeptide] wherein said enzyme is endogeneous to *Bacillus licheniformis*, ATCC 14580.

4. (Amended) The enzyme according to [any of] claim[s] 1[-3], [which is active] wherein said enzyme exhibits enzymatic activity at a pH in the range of 4-11[, preferably 5.5-10.5].

5. (Amended) The enzyme according to claim 1 [which is] wherein said enzyme is selected from the group consisting of:

- (a) a polypeptide comprising an amino acid sequence as shown in positions 26-646 of SEQ ID NO:2, [or] and
- (b) an analogue of the polypeptide which is at least 75% homologous with the polypeptide.

6. (Unchanged) An isolated polynucleotide molecule encoding a polypeptide having endo-beta-1,4-endoglucanase activity selected from the group consisting of:

- (a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 76 to nucleotide 1455;
- (b) species homologs of (a);
- (c) polynucleotide molecules that encode a polypeptide that is at least 75% identical to the amino acid sequence of SEQ ID NO:2 from amino acid residue 26 to amino acid residue 485;
- (d) molecules complementary to (a), (b), or (c); and
- (e) degenerate nucleotide sequences of (a) or (b).

7. (Amended) The polynucleotide molecule according to claim 6 [which] wherein said polynucleotide is selected from the group consisting of:

- (a) polynucleotide molecules comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 76 to nucleotide 1941;
- (b) species homologs of (a);
- (c) polynucleotide molecules that encode a polypeptide that is at least 75% identical to the amino acid sequence of SEQ ID NO:2 from amino acid residue 26 to amino acid residue 646;
- (d) molecules complementary to (a), (b), or (c); and
- (e) degenerate nucleotide sequences of (a) or (b).

8. (Amended) The isolated ~~pol~~ynucleotide molecule according to claim 6 [or 7], wherein the polynucleotide is DNA.

9. (Amended) An isolated polynucleotide molecule encoding a polypeptide having endo-beta-1,4-glucanase activity, [which] wherein said polynucleotide molecule hybridizes to a denatured double-stranded DNA probe under medium stringency conditions, wherein the probe is selected from the group consisting of DNA probes comprising the sequence shown in positions 76-1455 of SEQ ID NO:1 and DNA probes comprising a subsequence of positions 76-1455 of SEQ ID NO:1 having a length of at least about 100 base pairs.

10. (Amended) The isolated polynucleotide molecule according to claim 6 [which] wherein said polynucleotide is [isolated from or produced on the basis of] derived from a DNA library from a prokaryote[, preferably from a bacterium, more preferably from a gram positive bacterium].

11. (Amended) The isolated polynucleotide molecule according to claim 10 [which is isolated from or produced on the basis of] wherein said polynucleotide is derived from a DNA library from a strain belonging to the genus *Bacillus*[, in particular a strain of *Bacillus licheniformis*, especially *Bacillus licheniformis*, ATCC 14580].

12. (Amended) The isolated polynucleotide molecule according to [any of the] claim[s] 6[-11] [which] wherein said polynucleotide is isolated from *Escherichia coli*, DSM 12805.

13. (Amended) An expression vector comprising the following operably linked elements:

(i) a transcription promoter;

(ii) a DNA segment selected from the group consisting of

(a) polynucleotide molecules encoding a polypeptide having endo-beta-1,4-glucanase activity comprising a nucleotide sequence as shown in SEQ ID NO:1 from nucleotide 76 to nucleotide 1455,

(b) polynucleotide molecules encoding a polypeptide having endo-beta-1,4-glucanase activity that is at least 75% identical to the amino acid sequence of SEQ ID NO:2 from amino acid residue 26 to amino acid residue 485, and

(c) degenerate nucleotide sequences of (a) or (b); and

(iii) a transcription terminator.

14. (Amended) A cultured cell [into which has been introduced] comprising an expression vector according to claim 13, wherein said cell expresses the polypeptide encoded by the DNA segment.

15. (Amended) The cell according to claim 14, [which] wherein said cell is a prokaryotic cell[, in particular a bacterial cell, or an endogenous cell from which the DNA segment, encoding the polypeptide exhibiting endo-beta-1,4-glucanase activity, originates].

16. (Amended) The cell according to claim 15, wherein the cell belongs to a strain of *Bacillus*[, preferably a strain of *Bacillus subtilis* or *Bacillus lentus*].

17. (Amended) A cell according to claim [15] 16, wherein the cell belongs to a strain of *Bacillus licheniformis*[, preferably *Bacillus licheniformis*, ATCC 14580].

18. (Amended) The cell according to claim 15, wherein the cell belongs to a strain of *Pseudomonas*[, preferably a strain of *Pseudomonas fluorescens* or *Pseudomonas mendocina*].

19. The cell according to claim 14, ~~wherein~~ the cell belongs to a strain of *Streptomyces*.

20. (Amended) A cell according to claim 14 wherein the cell belongs to a strain of *Saccharomyces*[, preferably a strain of *Saccharomyces cerevisiae*].

21. (Amended) A method of producing a polypeptide having endo-beta-1,4-glucanase activity, said method comprising (i) culturing a cell into which has been introduced an expression vector according to claim 13, whereby said cell expresses a polypeptide encoded by the DNA segment; and (ii) recovering the polypeptide.

22. An enzyme composition comprising ~~the~~ enzyme according to claim 1.

23. (Amended) The composition according to claim 22 [which] further [comprises] comprising [one or more] an enzyme[s] selected from the group consisting of proteases, cellulases (endoglucanases), β -glucanases, hemicellulases, lipases, peroxidases, laccases, α -amylases, glucoamylases, cutinases, pectinases, reductases, oxidases, phenoloxidases, ligninases, pullulanases, pectate lyases, xyloglucanases, xylanases, pectin acetyl esterases,